

REMARKS

As a preliminary matter, Applicant requests acknowledgment of the Information Disclosure Statement filed December 15, 2005, with Examiner's initials indicating that the references have been considered. A duplicate copy of the Information Disclosure Statement is provided for the Examiner's convenience.

Claims 6 and 10-11 stand rejected under 35 U.S.C. §102(b) as being anticipated by Bottasso et al. (U.S. Patent No. 3,713,929). Claims 6-8 and 11 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Caretta et al. (U.S. Patent No. 6,409,959, hereinafter Caretta '959) taken in view of Caretta (U.S. Patent No. 6,332,999, hereinafter Caretta '999). Claim 9 stands rejected under 35 U.S.C. §103(a) as being unpatentable over Caretta '959 taken in view of Caretta '999, and further in view of Hesse (U.S. Patent No. 5,944,926). Since these claims are cancelled, the rejections are now moot.

Claims 1 and 3-5 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Caretta '959 taken in view of at least one of Kaido et al. (U.S. Patent No. 6,136,123), Hashimura et al. (U.S. Publication No. 2002/0033557) and the Admitted Prior Art. In response, Applicant amended independent claim 1 to include the features of claims 3 and 4, and respectfully traverses the rejection based on this amendment.

As amended, claim 1 now calls for a method of manufacturing a pneumatic tire that includes the adhesive having a glass transition temperature range from -20°C to 30°C, and the surface of the tire building drum being heated at a temperature of 40°C to

60°C in the step of heating the tire building drum. Applicants respectfully submit that the cited references fail to disclose or suggest these features of amended claim 1.

Caretta ‘959 is directed to a process for manufacturing, molding and curing tires for vehicle wheels. Caretta ‘959 is directed to devices having a bladderless cure. By preheating the tire molding drum, Caretta ‘959 discloses to prevulcanize the innerliner layer in order to prevent the permeation of the heating fluid under pressure into the inside of the tire structure. However, the preheating temperatures for the tire molding drum are higher than the temperature range now recited in independent claim 1. (See Caretta ‘959, col. 6, lines 15-23).

In contrast, an object of the present invention is to facilitate handling of the innerliner layer of which the outer peripheral surface thereof has the adhesive applied thereto. The present invention also prevents separation by solidly bonding the innerliner layer with other structuring members during the building of the tire without preheating the tire molding drum to the higher temperature taught by the cited prior art. Accordingly, the present invention advantageously has an adhesive with a high cohesive force and a low tackiness at a room temperature, whereby, in situations when winding of the innerliner layer around the tire building drum occurs, parts of the radial outer surface 9a of the innerliner 9 to which the adhesive had been applied can be easily separated from each other, and the handling performance of the tire is remarkably enhanced. (See paragraph [0047] of the present Application).

After the innerliner layer is wound around the tire building drum, the adhesion strength of the adhesive is increased by preheating, whereby the solid adhesion of the innerliner layer with the other structuring members is secured.

Advantageously, in the present invention the preheating temperature is in the range of 40°C to 60°C. This temperature is sufficient, and it is not necessary to heat the tire up to a high temperature so as to prevulcanize the innerliner layer as taught by Caretta '959. Accordingly, the present invention advantageously does not waste energy by preheating the tire liner like Caretta '959.

Kaido, Hashimura, and the Admitted Prior Art also fail to disclose or suggest the features now recited in amended claim 1. Accordingly, any combination of Caretta '959 with Kaido, Hashimura and the Admitted Prior Art fails to disclose or suggest the combination of the adhesive having a glass transition temperature range from -20°C to 30°C and the tire building drum being heated at a temperature of 40°C to 60°C in a step of heating the tire building drum. Accordingly, withdrawal of the §103(a) rejection of claims 1 and 5 is respectfully requested.

Claims 1-5 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Hashimura in view of Conger et al. (U.S. Publication No. 2004/0123936) and Caretta '959. Applicant respectfully traverse the rejection for the reasons recited above with respect to the §103(a) rejection of independent claim 1.

As discussed above, Hashimura fails to disclose or suggest the features of the adhesive having a glass transition temperature range from -20°C to 30°C and the surface of the tire building drum being heated at a temperature of 40°C to 60°C in the step

of heating the tire building drum. Caretta ‘959 also fails to disclose or suggest this feature as discussed above.

Conger is similar to Caretta ‘959 and discloses a bladderless cure. Accordingly, Conger teaches preheating the tire molding drum at temperatures above Applicant’s claimed range to prevulcanize the innerliner layer and prevent the permeation of the heating fluid under pressure into the inside of the tire structure. (See paragraph [0038] of Conger). Since Conger and Caretta ‘959 require excessive heating of the tire building drum above the temperature range of 40°C to 60°C in the step of heating the tire building drum, and Hashimura is silent regarding this feature, withdrawal of the §103(a) rejection of claims 1-2, and 5 is respectfully requested.

New claims 12 and 13 are added for consideration and depend from dependent claim 2. New claim 12 features the heated adhesive layer being naturally cooled, and new claim 13 features the adhesive layer being forcibly cooled. Support for these features can be found in Applicant’s Specification at paragraph [0044]. Applicant earnestly solicits allowance of new claims 12-13 based on the features recited in these claims, and also for the reasons provided above with respect to the rejection of claims 1 and 2.

For all of the foregoing reasons, Applicant submits that this Application is in condition for allowance, which is respectfully requested. The Examiner is invited to contact the undersigned attorney if an interview would expedite prosecution.

Respectfully submitted,

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